

Pharmaceutical Industry of Bangladesh: Progress and Prospects

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Abstract

Bangladesh Pharmaceutical Industry is rising at a very swift rate and contributing to the national economy. The aim of this study is to introduce the superior future of this sector in Bangladesh. It is known as the fastest growing industry in the world. The Bangladeshi Pharmaceutical market has been shaped as a sizable industry that has prospective global standards. This industry has anticipated exporting its products to foreign market with bigger success. This study has been tried to identify the critical success factors with projection of the market growth with particular reasons. The major companies created a great impact that the economy is not being import dependent country anymore with 97% dominance by local firms. This study has also tried to find out the recent development toward the industry such as TRIPS facility, API Park and others. It has also identified the export trend till 2015.

Keywords: Pharmaceutical Industry, Bangladesh Pharmaceutical sector, Growth, Pharmaceutical Export.

1. Introduction

The Pharmaceutical Industry is one of the world's principal industries owed to worldwide revenues of around US\$2.8 trillion. Pharmaceutical Industry has seen major transforms in the current years that leave new load on payers, providers and manufacturers. Customers now demand the same choice and convenience from pharmaceutical industry that they find in other segment (Saxena, 2012).

There was hardly any Pharmaceutical enterprise before liberation in Bangladesh (then East Pakistan). After several years of liberation, the government could not increase budgetary allocations for the improvement of health sector. At that time, most of the people had little access to the essential lifesaving medicines. This sector started to improve from 1980s. The Pharmaceutical Industry has grown in the last two decades at a considerable rate (Banglapedia, 2013). Today Pharmaceutical Sector has become an obligatory part of health care system around the world. Historically pharmaceuticals have played a vital role in the human development by improving the quality of life and reducing the time spent in the hospitals. Due to its direct link with the welfare and wellbeing of human beings Pharmaceutical Industry is of strategic importance for the development of a healthy and productive nation. Today, Pharmaceutical Industry is considered to be one of the largest and rapidly growing global industries. It is a major source of employment generation and foreign exchange earnings for many countries around the globe (SESRIC, 2011).

However, despite all these extraordinary achievements it's a harsh reality that every year millions of people die across the world, mostly in low income developing countries, due to unavailability and inaccessibility of necessary medicines. According to the World Health Organization (WHO), on average, 30% of the world population lacks access to life-saving medicines; whereas, in some countries in Asia and Africa, the number may be as high as 50% (Roger, B., 2008). According to EPL research conducted by BRAC (2012) there are about 250

Licensed pharmaceutical manufacturers in this country out of these currently a little over 100 companies are in operation.

Domestically, Bangladeshi companies including the locally based MNCs produce 95%-97% of the drugs and the rest are imported. In the opinion of EPL research of BRAC the domestic market is highly concentrated and competitive. However, the local manufacturers dominate the industry as they enjoy approximately 87% of market share, while multinationals hold a 13% share. Today the total volume of the Bangladesh Pharmaceutical market is BDT 84 billion as on 2011 based on IMS report, with an annual growth of 23.6%, which is more than the global growth of pharmaceutical industry. (Wikipedia, 2013). In the current scenario, as the national companies are taking over, about 97% need is fulfilled domestically while 3% are covered by imports (opentoexport.com). This is a complete turnaround over from two/three decades back when imports used to dominate the market. According to EPL research conducted by BRAC (2012), almost all the raw materials are imported from China, India, and Europe. Over the last eight years, import of pharmaceutical products grew at 12.9% annually while organic chemical grew at 15.8%.

The rest of the research has been organized in the following way- rationale of the study has been revealed the reason behind doing this study and several author's review has been discussed in literature review. The analysis and discussion has been started with the background of this sector in Bangladesh which has been followed by size of the Bangladesh pharmaceutical market, its growth, the reason after growth, forces for this potential growth, and the growth projection about growth rate within five years which is based on health expenditure as a percentage of GDP from 2000 to 2011 and also there have been some key companies of Bangladesh with their market size and shares. Some key developments has been studied through budget, TRIPS, API park and export trend analysis. At the last section there have some recommendations and concluding remarks along this sector.

2. Rationale of the Study

The domestic market of Pharmaceutical products in Bangladesh has shown a tremendous growth over the last couple of years. There has been a marked value-wise growth of the market -- at the rate of 23.59% in 2011 over that of 2010, according to the data released by IMS Health Bangladesh. According to the IMS, the size of Bangladesh's domestic drug market was \$686 million in 2008, \$797 million in 2009, \$977 million in 2010, and it reached US \$1136 million in 2011 (Siddique, 2012). Now in Bangladesh the pharmaceutical sector is one of the most developed hi-tech sectors within the country's economy. After the promulgation of Drug Control Ordinance 1982, the development of this sector was accelerated. The professional knowledge, thoughts and innovative ideas of the pharmaceutical professionals working in this sector are the key factors for these developments. Due to recent development of this sector it is exporting medicines to global market including European market. This sector is also providing 97% of the total medicine requirement of the local market. Leading pharmaceutical companies are expanding their business with the aim to expand export market (bddrugs.com). This research may help the exacting authority to be more watchful about this sector.

3. Literature Review

A number of papers have been made to study about the impact of pharmaceutical industry for the economic development of a country. Some papers were having general views looking at the different other economies like Aamir and Zaman (2011) studied the impact on Pakistan Economy, Greene (2007) on the Indian Economy, Rios (2008) on the Economy of Mexico, Genesis (2007) on the South African economy. However, many of the studies are discussing the impact specifically on the economy of Bangladesh (Bhuiyan, Maniruzzaman and

Sulatana 2011, Habib and Alam 2011, IDLC 2011, BRAC 2012, Mazumdar and Rahman 2012 and many others). In most of these papers, the researchers tried to show the positive impact of pharmaceutical industry for developing its home economy.

Studies on pharmaceutical industry on global level are available but at specific level studies from the perspective of Bangladesh are limited. Kremer (2002) looked at the improvement of health in developing countries, but many people in developing countries do not obtain even inexpensive pharmaceuticals and little pharmaceutical R&D is oriented towards products needed by developing countries, such as a malaria vaccine and access to existing products could be improved by facilitating differential pricing. According to Susan Horn, University of Utah, the group found that patients whose drug choice was limited wound up making more visits over the course of a year including emergency room visits and hospitalizations (Jeff, 1997). The United States has a clear edge both in terms of “output”, in other words, the number of new active ingredients for pharmaceuticals, and in terms of “input”, that is, R&D spending of US\$ 20 billion on drug development in that country every year (Humer, 2005). On average, physicians meet with Pharmaceutical sales representatives around four times a month. (Wazana, 2000). The name of these units is Essential Drug Company Ltd. (EDCL), which is operating as a public limited company under the Ministry of Health and Family Welfare (Habib & Alam, 2011). And soon with the prospective thrust in the export scenario, Bangladesh pharmaceuticals sector is sure to mark its presence in global arena and this will undoubtedly reflect in the growth of GDP in pharmaceuticals (Shafiuzzaman, 2004). Though some significant problems are prevailing in this sector, pharmaceutical industry in Bangladesh has achieved remarkable growth and has ample opportunity to grow in future (Shariat Ullah & Razzak, 2006). When the Agreement on Trade-Related Aspects of Intellectual Property (the TRIPS Agreement) was concluded at the close of the Uruguay Round of multilateral trade negotiations in 1993, it represented a remarkable expansion of the international framework for intellectual property rights (VanDuzer, 2003). In manufacturing pharmaceutical industries environmental control is very essential, pharmaceutical industry lack of control may destroy the quality of the medicine but many firms in Bangladesh fails to maintain proper control (Bhuiyan, Maniruzzaman and Sultana, 2011).

4. Objectives of the Research

- To identify the historical background of Pharmaceutical Industry of Bangladesh.
- Explore the overall situation of Pharmaceutical industry of Bangladesh.
- Estimate the contribution of this industry to the total export earnings.
- Estimate the growth projection of this industry.

5. Research Methodology

This research is based on secondary data. Secondary data were collected from the existing writing in the field of both local and international pharmaceutical part. It has been used combined information collected from several recognized journals, magazines, newspapers and websites of both local and international pharmaceutical companies and various published materials on the topic. Collected data has been analyzed on the basis of the objective of the study. A qualitative analysis has been prepared based on the secondary data.

6. Data Analysis and Findings

6.1 Background of Bangladesh Pharmaceutical Industry

With a history since 1950s pharmaceutical industry has gone through noteworthy changes. This industry was

largely conquered by multinational companies, and it was very much reliant on import. A defined rule for the development of the industry was formed through the formulation of national drug policy, and drug control ordinance in 1982. Next to follow by, MNCs dominated the market 75% and 133 local firms shared the rest one. Since then, the local firms have recognized a stronger footing, and Bangladesh has become a vigorous exporter from import dependent country.

Table 1: Bangladesh Pharmaceutical Market Prior to 1982

Government Spending	BDT 1,500 million per year
Number of brands in the market	3500
Number of manufacturers	177
Multinationals	8
Retail Pharmacists	16000
Number of Wholesalers	1300
Private Sector	90% available drugs
Government Utilize	10% available drugs

Source: Bangladesh Pharmacy Council (BPC), Annual Report – 2009

6.2 Size of the Bangladesh Pharmaceutical Market and its Growth

The size of the retail market reached BDT 84.0 billion (US\$ 1.136 billion) as on 2011 based on IMS health Bangladesh (Haroan, 2012). The report additionally stated that, retail sales in domestic market achieved 23.59% growth in 2011 which is following 23.8% and 16.8% growth in 2010 and 2009 respectively. This industry has an annual growth rate of 10.2% during the fiscal year 2002. The values fell by 4.3% in 2003. The lower growth rate showed in 2003 and 2004 is largely because of country's economic recession. Again the growth rate increased by 9% in 2005. The growth rate of 2005 was 17.5%. In recent times the growth rate has been literally doubled which is 23.59% in 2011.

Table 2: Retail Market Size & Growth

Year	Size (BDT b)	Growth
2011	84.0	23.59%
2010	68.0	23.8%
2009	54.9	16.8%
2008	47.0	6.9%
2007	44.0	15.8%
2006	38.0	4.1%
2005	36.5	17.5%
2004	31.1	8.6%
2003	28.6	5.9%
2002	27.0	10.2%
2001	24.5	

Source: Square Pharmaceuticals Annual Reports & IMS Report, 2012

Recently published Bangladesh Pharmaceutical Index, 3Q'2011 shows that Bangladesh has a tk. 8,000 Cr market. And there are no multinational companies in top ten lists of pharmaceutical companies. Local manufactured medicine is playing important role to drive doctor prescription for strong pharmaceutical marketing skill and

product quality. There are only about 20% people in rural area are receiving nursing and medical care parting the rest of the rural market utilizable because there is a big market lying ahead of the existing market in the rural areas. The market will be engorged automatically when the whole population will be under healthcare. It is likely that the total market size (including rural market) is projected to be over BDT 90.0 billion at nearby.

6.3 The Reasons after Market Growth

The following table shows some selected health indicators for Bangladesh. Most of the indicators improved over the last decade which is among some of the factors that contributed to the growth of the sector.

Table 3: Selected Health indicators for Bangladesh

Health Indicators	2011	2010	2005	2000
Life Expectancy (age) 1	68.94	68.63	66.9	64.7
Health expenditure, public (% of total health exp) 1	36.58%	36.51%	34.9%	39.0%
Health expenditure, private (% of GDP) 2	2.36%	2.35%	2.09%	1.72%
Health exp. per capital (Current US\$) 1	27	25	12.1	9.1
Health exp. as % of GDP 2	3.72%	3.69%	3.21%	2.82%
GDP per Capita (Current US\$) 3	743.41	674.93	428.8	363.6
Median Age (2012 estimate) 1	23.6	-	-	-
Poverty Level ³	26%	31.5%	40.0%	48.9%

Source: WHO, World Bank, IMS Report, 2011

- There has been an ongoing demographic move - life expectancy improved from 64.7 in 2000 to 68.94 in 2011 which to see the amplified health awareness among the people. Also the income level of the population increased over the last decade which allowed them to spend more for healthcare.
- The foundation was also stumpy as healthcare expenditure was less than 3% of GDP in 2000 with total pharmaceutical sector size of BDT 24.5 billion only in that year and now it is 3.72% with a sector size of BDT 84 billion in 2011.
- Emergence of Private sector contribution. In the year of 2000 it was 1.72% of the total GDP but now it has become 2.36% of the total GDP in 2011. A number of top category hospitals in progress operating which includes Apollo Hospitals, Square Hospitals, United Hospitals and others. Due to their quality service these hospitals became very admired with the mass population; they have been a chief issue contributing to increased healthcare expenditure.
- Development in private expenditure was the most important reason behind fall in public % of expenditure as can seen a rise in a descending order in expenditure of the public healthcare expenditure as a % of total healthcare expenditure from the last decade, there has been increased expenditure in absolute terms which is from 39% in the year of 2000, again a drop in 2005 at 34.9% and at last a modest climb in 2011 which is 36.58%.
- Health expenditure per capita almost tripled in the last decade from 9.1 to 27, indicating people's compliance to spend more to stay healthy. Over the last decade income base of the population has been upward.

6.4 Forces for Potential Growth

Table 4: Comparison of health indicators (2011) with other regions

Health Indicators	Bangladesh	World	South Asia	EU	USA
Life Expectancy (age)	68.94	67.88	67.06	79.76	78.49
Government % in total health exp.	36.58%	16.2%	31.18%	77.04%	45.94%
Health exp. as % of GDP	3.72%	10.1%	3.79%	10.15%	17.85%
Health exp. per capital (Current US\$)	26.54	949.74	53.04	3,551	8,608

Source: World Health Organization Report, 2011

From the Table 4 compares the indicators with other regions of the world and being evidence for that Bangladesh is way after other countries. Government spending proportion is much lower than that in other regions - 36.58%. Which is almost less than half of EU spending and it is also lower than USA. And though better than the worldwide and South Asian expenditure It may one possible area where future growth may come from. Moreover, the total health expenditure to GDP percentage and health expenditure per capita of Bangladesh (both of which gradually increased from 2000 – 2.82% and \$9.88) is very squat in contrast to developed and developing countries. It is to be expected that the recent growth in the local retail market to prolong in the present decade despite the fact that the stand is still very low.

6.5 Growth Projection

Table 5: Healthcare Expenditure as % of GDP

Region	2011	2010	2009	2005	2000
USA	17.9%	17.6%	16.21%	14.72%	13.41%
World	10.1%	10.0%	10.03%	9.73%	9.23%
UK	9.3%	9.6%	9.34%	8.25%	7.04%
Japan	9.3%	9.2%	8.35%	8.16%	7.69%
Afghanistan	9.6%	10.4%	7.36%	8.76%	8.29%
Nigeria	5.3%	5.4%	5.82%	6.60%	4.56%
Nepal	5.4%	5.1%	5.81%	5.91%	5.06%
Thailand	4.1%	3.9%	4.31%	3.55%	3.40%
India	3.9%	3.7%	4.17%	4.03%	4.61%
Bangladesh	3.7%	3.7%	3.35%	3.21%	2.82%
Sri Lanka	3.4%	3.5%	3.96%	4.04%	3.72%
Pakistan	2.5%	2.8%	2.62%	2.78%	3.02%

Source: World Bank Report, 2012

Table 5 shows that comparison of Bangladesh with other neighboring countries and also with some other developed countries in terms of healthcare expenditure as a % of GDP. Bangladesh is a way below the list of countries except Sri Lanka and Pakistan.

Bangladesh has achieved 6.7% GDP growth rate over the last decade. With a vision to attain double-digit growth

within 2018, the current government has set target to achieve a higher growth rate. So, it is expected that the actual growth rate in GDP will be 7% within 5 years and the healthcare expenditure is expected to be more than that estimated value of around 17%. Now, the retail Pharmaceutical market size is about 1% of GDP and health expenditure is about 3.7% of GDP. As a result, the Pharmaceutical sector revenue accounts for almost 30% of the healthcare expenditure. If this situation continues over the coming five years, pharmaceutical revenue will also mature at par at 16.67% annually over the next five years.

6.6 Key Companies of Bangladesh

IMS Health Bangladesh Limited revealed their December 2012 report and showed that Square Pharmaceuticals (DSE: SQRPHARMA) holds the top market share in the retail market - 18.63%, followed by Incepta Pharmaceuticals (INCEPTA) - 9.68%, Beximco Pharmaceuticals (DSE: BXPBARMA) - 8.83%, Opsonin Pharma (OPSONIN) - 5.38% and Renata (DSE: RENATA) - 4.94%. The top five companies held 47.46% market share in 2012, slightly more than their 46.8% market holding in 2011 - indicating cumulative revenue growth in excess of the sector growth. Among the top five, three companies are listed in DSE – Square, Beximco and Renata.

Table 6: Top Company Market Size and Share

Company	Market Size (BDT m)	Market Share	
		2012	2011
Square Pharmaceuticals	15,725.8	18.63%	18.7%
Incepta Pharmaceuticals	7,851.5	9.68%	9.3%
Beximco Pharmaceuticals	7,415.0	8.83%	8.8%
Opsonin Pharma	4,275.4	5.38%	5.1%
Renata	4,076.8	4.94%	4.9%
Eskayef Bangladesh	3,980.3	4.64%	4.7%
Aristopharma	3,412.8	3.98%	4.1%
ACI	3,578.2	4.18%	4.3%
Acme Pharmaceutical	3,500.7	4.17%	4.2%
Drug International	3,070.2	3.78%	3.7%
Top 10 Companies	56,886.5	68.21%	67.7%
Top 20 Companies	71,382.5	85.52%	84.9%
Others Companies	12,661.6	14.5%	15.1%
Total Sector	84,044.1		

Source: Annual Report of IMS Health Bangladesh Limited, December, 2012

6.7 Some Recent Developments in Pharmaceutical sector of Bangladesh

6.7.1 Budget 2011-12

There have been some positive moves toward pharmaceutical industry in the recent budget 2011-12. The VAT (15%) and Import duty (5%) from leucocyte filter import by pharmaceuticals has been withdrawn. With that

Supplementary duty (20%) and reduction of import duty (12% from 25%) for Cartridge/ Membrane filters import has been withdrawn. Besides that Duty (3% from 12%) for sandwich panel import has been reduced and also the Duty for some import material of pharmaceutical raw materials has been reduced. Reduced duty will lower product cost for certain product classes (Anticancer drugs, Analgesics, d Injectables) providing potentials for local pharmaceuticals manufacturers. The eligibility for Tax holiday has been extended from June 2011 to June 2013.

6.7.2 TRIPS

The World Trade Organization's (WTO) Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement permits Bangladesh to reverse-engineer patented generic pharmaceutical products to sell locally and export to markets around the world (opentoexport.com). In 2001, under the trade-related aspects of intellectual property rights (TRIPS), the World Trade Organization allowed developing and poor nations to produce generic drugs without compulsory licenses or paying the patent holders for a certain time frame. For developing countries like India and China, the timeline was up to 2005. For Least Developed Countries (LDC), including Bangladesh, the time line was up to 2016. The advantages that TRIPS provide for Bangladesh are somewhat offset by the pace and competitiveness of the Indian and Chinese generic markets. In both the countries, companies can produce drugs at highly competitive pricing, even with higher costs associated with buying patented APIs or paying royalties. Bangladesh will have to rely on the standard business practices of producing the highest quality product at the lowest price to compete on the international market which may be difficult to achieve in the near term.

Recently, the least developed countries have sought an extension of the deadline from 2016 to 2021, as most of them have not yet enjoying the benefits of TRIPS relaxation. In addition, WTO still could not finalize the list of patented products. If such an extension is provided, Bangladeshi pharmaceutical industry is most likely to enjoy a good growth from exports to LDCs. (Source:IDLC Research)

6.7.3 API Park

The executive committee of the national economic council (ECNEC), gave green signal to the Active Pharmaceutical Ingredient (API) Park in Munshiganj recently at an overall project cost of Tk 2.13 billion. The country can save at least 70 per cent of the amount by producing raw materials at the API Park. The park is scheduled to transform the drug industry as a major export earner. The country will be benefited immensely if the park is set up as quickly as possible as Bangladesh is now enjoying a special benefit to export drugs to all over the world under a World Trade Organisation (WTO) deal. Bangladesh Small and Cottage Industries Corporation (BSCIC) have been assigned to set up the proposed park.

A total of 30 drug companies have already applied for plots at the API park. They have the money ready to establish plants. The companies will start producing APIs within six months after the government hands over the plots to them. It is really impossible to be competitive in the international medicine market if a company doesn't produce its own raw materials. Bangladeshi companies need to invest in a big way in API Park if they want to have a big slice of the export pie.

6.8Export Trend Analysis

Bangladesh's overall export earnings from pharmaceuticals BDT 4212.25 million for the calendar year 2011, recording a growth of 10.5% over BDT 3813.50 million in calendar year 2010. Exports earnings in 2012 was

BDT 4709.77 million, 11.7%% up from the previous year. Table 7 shows the year wise export earnings for ten years while the first 6 year having original data and the last 4 year having projected data by fitting parabola $Y = a + bX + cX^3$ to this data.

Table 7: Export Trend Analysis by fitting parabola

$Y = a + bX + cX^3$ to this data.

Year	Drug Export
2006	2663.39
2007	2477.41
2008	3277.19
2009	3471.69
2010	3813.5
2011	4212.25
2012	4709.77
2013	5220.83
2014	5773.07
2015	6367.49

In the year 2007 there had been a negative growth rate. It was -6%. And in the year 2008 it achieved a sudden growth rate of 32%. After that it has been reached around 6% in 2009 and 9.8% in the year of 2010. Pharmaceutical export from Bangladesh recorded 25.5% growth annually over the last seven years. However, the growth was not stable across all the years - in fact in FY2009 pharmaceutical export dropped 1.8% subsequent the global financial crisis. In FY2011 also, the growth was only 1.0% because of sovereign debt crisis in Europe. Without these two years where trade slowed down notably global, pharmaceutical export was healthy in all other years. In the year 2012 the growth rate estimated 11%.

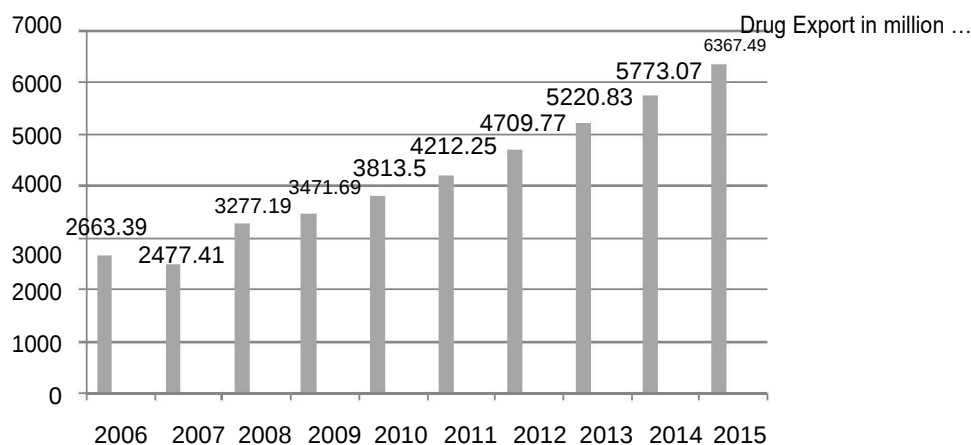


Figure 2: Export trend (2006-2015)

However, the growth rate is likely to peak four/five years from now. From the trend analysis it can be seen that in the year of 2013 it will reach at BDT 5220.83 million. The projected growth rate is 10.8%. And in the year of 2014 it will be 10.5% and in the year of 2015 it will be 10.2%.

Earlier, we forecasted domestic market to grow at around 15% annually over the next five years. Top companies can easily achieve more than 15% growth by attaining higher export sales. Going beyond 2015, export is likely to be the major driver behind company's top line growth and the trend analysis is showing that the growth rate will be 51.6% higher from 2011.

7. Recommendations and Concluding Remarks

The projected implications may help the Pharmaceutical industry to lessen the difficulty of different areas. These are as follows:

- The local pharmaceutical companies should manufacture quality product that may help them to acquire larger market share.
- It may produce world class medicine that can attract demand of the global market.
- The pharmaceutical companies should not violate the law specially in the case of selling to the consumers, which may damage the trust of people of the country.
- All pharmaceutical companies should have been more professional in manner to reach the market.
- The proper channel to reach client should be built to a specific market and assist institutions to manage the market.
- There should be more establishments of joint venture projects as it may ensure technology sharing.
- The API Park should be completed as early as possible with the intervention of government.

The pharmaceutical sector has already been declared as the thrust sector by the government of Bangladesh. Bangladesh has built a strong baseline and going towards the self-sufficiency for the production of medicine. In Bangladesh the per capita consumption rate of medicine is one of the lowest in this earth. However, since independence this industry has been a key contributor to the Bangladeshi economy. The industry has been equipped to realize them is a million dollar question. When we have generic drug producers like India and China, we will have to make double the efforts required to enter any export destination. Pharmaceutical Industry is rising at a likely rate with the expansion of healthcare infrastructure and so increasing the health consciousness and the purchasing competence of natives. Healthy growth is to be expected to encourage the Pharmaceutical companies to introduce newer drugs and newer research products, while at the similar time maintaining a vigorous competitiveness in respect of most compulsory drugs.

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